Cognitive-Behavioral Therapies for Trauma

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CHAPTER FOUR

Cognitive-Behavioral Treatment of War-Zone-Related Posttraumatic Stress Disorder

A FLEXIBLE, HIERARCHICAL APPROACH

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In this chapter, we explicate a cognitive-behavioral approach to the treatment of posttraumatic reactions to the experience of warfare. We begin by describing briefly the prototypical combat veteran who has posttraumatic stress disorder (PTSD), focusing on their military and postmilitary experiences, and tying these experiences to the sorts of posttraumatic reactions most frequently seen in the clinics and hospitals of the Department of Veterans Affairs (DVA). We use veterans of the Vietnam War in our examples, since this is the modal era population seen currently in the DVA. However, we emphasize that many of the issues and characterizations that follow are also applicable to veterans of World War II, the Korean War, and the Persian Gulf War. Next, we summarize a cognitive-behavioral perspective on the origins and sequelae of posttraumatic reactions. The resulting clinical picture in combat veterans is a complex and multifaceted one that requires a systematic and detailed approach to assessment. Following the section on assessment, we discuss our flexible, hierarchical approach to the treatment of combat-related PTSD. The treatment of veterans requires considerable sensitivity to the complexity of their clinical presentation. Our model of treatment offers a range of clinical options that addresses the level of patients' functioning, their personal resources, and both their immediate and long-term needs. Exposure-based treatment is at the center of this cognitive-behavioral model. Thus, we discuss in some detail the boundary conditions of, and clinical

guidelines for, this procedure. We end with a case example in order to illustrate the principles and practices described throughout this chapter.

TRAUMA AND THE WAR IN VIETNAM

Although more than 20 years have passed since the end of the Vietnam War, many combat veterans continue to suffer from the consequences of their experiences in the military (Kulka et al., 1990). Phenomenologically, for some, it is often as though they never left Vietnam. For many, they are just now telling their stories for the first time, having lived alone for more than two decades with the memories of repeated, horrifying experiences of the imminent threat and the actual occurrence of destruction, dismemberment, and death. The context within which these experiences occurred was formed by veterans' developmental circumstances (many enlisted in their late teens and early 20s; Kulka et al., 1990), their mode of entry into and exit from Vietnam (both were solitary experiences that lacked the sort of group camaraderie that helps to mitigate anxiety and stress in the military; see Belenky, Noy, & Solomon, 1987; Bion, 1959), and the nature of guerrilla warfare in a jungle environment (for which recruits were unprepared).

Vietnam combat veterans participated in the killing of enemy soldiers, and they were frequently exposed to the threat of death from identified combatants, from unidentifiable civilians who sided with the enemy, and even from infants and children who were sometimes booby-trapped with explosives (Karnow, 1983). And they witnessed, all too often, the horrifying maiming and slaughter of fellow soldiers, those with whom they had formed the most intimate and strongest of bonds. Some veterans also observed terrible acts of unnecessary violence against civilians, while others participated personally in the commission of atrocities. Researchers have shown that those who either committed those acts themselves, or who witnessed but failed to act to prevent atrocities, have a particularly virulent and chronic posttraumatic adjustment (e.g., Gallers, Foy, Donahue, & Goldfarb, 1988).

Women, who were predominantly nurses in the war zone in Vietnam, were also exposed to the horrors of war (Wolfe, Mori, & Krygeris, 1994). They saw many young men wounded grotesquely and dying. Nurses also provided emotional support to the wounded and dying, which had its own psychological legacy. Furthermore, nurses were exposed to the rigors of a war in a foreign country, but were also targets of sexual assault and harassment by their male counterparts (Baker, Menard, & Johns, 1989). As was the case with the male combat veteran, the traumatizing experiences of these nurses and their devastating aftereffects were not given adequate recognition until relatively recently (Leon, Ben-Porath, & Hjemboe, 1990).

Upon their return stateside, veterans found themselves returning abruptly to a society that was increasingly against the war effort and all too often identified

the veteran with those political and military leaders who were ultimately responsible for its continuation. Even fellow veterans of earlier wars shunned soldiers of the Vietnam War, unfairly blaming them for a losing effort, and preventing their membership into long-established veterans' organizations. A downturn in the postwar economy led many Vietnam veterans to find themselves jobless and even homeless. Small wonder, then, that these veterans found few who were willing to listen. The result, in many cases, was an unwillingness to disclose their true feelings about their war-zone experiences, ill-fated attempts to suppress their traumatic experiences, as well as the unassimilated rage and guilt that often accompanied them, and, eventually, the development of posttraumatic symptoms. Similar outcomes are seen frequently in veterans of other wars, although some of the antecedent issues are different.

POSTTRAUMATIC REACTIONS FROM A COGNITIVE-BEHAVIORAL PERSPECTIVE

Clinicians and researchers continue to debate what they consider to be the defining features of traumatic life events (Cooper, 1986; Niederland, 1971; Wilson, 1995). Most investigators would agree on the following set of criteria for defining a traumatic event: (1) an experience that grossly violates fundamental beliefs and expectations about the self and the world; (2) an event that entails unconditioned stimulation, including pain, tissue damage, and/or primary affective reactions of helplessness, horror, and disgust; and (3) an event and context that overwhelms the individual's capacity for coping. Veterans' experiences of war-zone combat fulfill all of these criteria.

Although little is known about the initial development of posttraumatic psychopathology, the eventual result of traumatic experience is two basic, competing processes (Horowitz, 1986; Horowitz & Becker, 1971): (1) the extreme ease of retrieval, or hyperaccessibility, of trauma-related memories (e.g., intrusive thoughts and feelings about the trauma), and (2) efforts to defend against, or avoid, these painful unwanted memories (e.g., avoidance of associated cues). Such memories become overly accessible because the conditioning that occurs as a result of a traumatic event produces very broad generalization, and over time, higher order conditioning further expands the range of stimuli, both internal and external, that activate conditioned emotional reactions (Keane, Zimering, & Caddell, 1985). The conditioned stimuli, along with the responses that they elicit, and the meanings associated with the event, are thought to be stored in memory in a complex network (Chemtob, Roitblat, Hamada, Carlson, & Twentyman, 1988; Foa, Steketee, & Olasov-Rothbaum, 1989). Cognitive processes are also affected in that, for example, a bias develops toward perceiving ambiguous cues as threatening, thereby taxing the capacity to attend to the world normally (Litz & Keane, 1989). Activation of the trauma network leads to a conditioned emotional re-

sponse that is aversive, and with which the individual attempts to cope through avoidance. Defensive avoidance is negatively reinforced (i.e., strengthened) to the extent that it results in a reduction of the aversive conditioned emotional response (Keane, Zimering, & Caddell, 1985; Mowrer, 1947). In PTSD, defensive reactions are multidimensional and overlearned, and tend, therefore, to be highly resistant to change.

Over time, the repeated occurrence of intrusive, trauma-related memories and defensive responses leads to enduring, trait-like changes in individuals' views of themselves and their world (i.e., schemas). These schemas, or themes, include generalized expectations about self and others that are threatening and pervasively negative. Lebowitz and Newman (1996) recommend focusing on the following as potentially important themes in PTSD: helplessness, fear, rage, loss, self-blame/guilt, shame, legitimacy, isolation/alienation, negative beliefs about the self, negative beliefs about other people, negative beliefs about the world, and the influence of culture. Particularly salient for veterans are schemas regarding trust, self-control, and guilt (e.g., Janoff-Bulman, 1992; Newman, Orsillo, Herman, Niles, & Litz, 1995). These themes can be informed by early premilitary experience (e.g., childhood sexual and physical abuse; Zaidi & Foy, 1994), as well as by postmilitary events (e.g., failure experiences at work). Such schemas lead veterans to expect to be misunderstood and invalidated, to fear loss of agency, to avoid affect or emotion for fear of being overwhelmed, and to feel despair. Suicidal impulses are frequently the result of despair, demoralization, and guilt. Substance abuse is often an attempt to defend against crippling anxiety (Keane & Kaloupek, 1997). Deficits of emotionality, bouts of dysphoria, and outbursts of anger and rage all affect the individual's relationships with others, resulting in problems with communication and intimacy, and leading to disruptions of social interactions at home and at work. If significant others behave in a punitive, rejecting, invalidating, or avoidant manner, the result is a further entrenchment of these beliefs (Carroll, Rueger, Foy, & Donahoe, 1985; Hyer, Woods, & Boudewyns, 1991; Jordan et al., 1992; Keane, Scott, Charoya, Lamparski, & Fairbank, 1985c; Nezu & Carnevale, 1987; Tarrier, 1996).

CLINICAL ASSESSMENT AND TREATMENT PLANNING

The degree of functional impairment, and the complex interrelations among impaired functions noted earlier, are so extensive in war-zone-related PTSD that a detailed and systematic clinical assessment is essential in coming to a comprehensive understanding of the veteran client, and in identifying targets for treatment. The aims of this assessment are (1) to establish the veteran's current condition, including risk for homicidal or suicidal behavior; (2) to determine compensation-seeking status; (3) to evaluate war-zone experiences; (4) to diag-

nose PTSD and comorbid conditions; (5) to screen for lifespan trauma; (6) to identify areas of functional impairment; (7) to assess personal resources and areas of strength; (8) to prioritize targets for change; and (9) to establish baseline levels of functioning for identified target behaviors. The assessment phase should also be used as a period in which the client can begin to learn about PTSD and available options for treatment, and as a time during which the therapeutic alliance is developed and tested.

We advocate the use of converging methods of assessment and the gathering of multiple sources of information in the evaluation of veterans (see Keane, Newman, & Orsillo, 1997, for a comprehensive review of the literature on the assessment of military-related PTSD; see also Litz, Penk, Gerardi, & Keane, 1992; Litz & Weathers, 1994; Malloy, Fairbank, & Keane, 1983; Newman, Kaloupek, & Keane, 1996). Table 4.1 contains a list of recommended instruments for the comprehensive psychodiagnostic assessment of war-zone-related PTSD.

When evaluating traumatic events in the war zone, clinicians need to gather information about the developmental context, events that occurred just prior to the trauma(s), the traumatic events themselves, including stimuli (sights, sounds, smells), responses (e.g., racing heart), and their meaning (e.g., thoughts of annihilation), the responses of significant others in the war zone, and the aftermath. The context within which any trauma must be understood will include the individual's premorbid history. Important premorbid variables include the individual's early experience with caregivers, histories of abuse, neglect, and brutality, academic and social functioning, dating and sexual relationships, coping responses, and pretrauma beliefs about the self, gender, and expression of emotion (see Litz & Weathers, 1994). Posttrauma variables are also crucial and include the frequency and intensity of PTSD symptoms, both internal and situational triggers of symptoms, coping responses (such as substance use), typical responses to daily stressors, history of responses to previous treatments, and available sources of support.

The end point of this comprehensive assessment is the identification of targets of intervention, and, even more importantly, a prioritization of problems within a hierarchy of clinical need. The clinical decisions about where to start treatment are based on factors such as safety, patient resources (e.g., coping capacity), verbal facility, and current environmental support. These clinical decisions are crucial because the costs of an inappropriate degree or level of treatment are great. Such potential costs include failure and dropping out, with subsequently increasing likelihood of treatment avoidance. The therapist also runs the risk of overwhelming an ill-prepared client, thereby undermining the client's sense of self-control, oversensitizing the client to his or her own aversive emotional states, and exacerbating the current symptom picture. Relapse of comorbid disorders, such as depression and substance abuse, is also possible, and destruction of the therapeutic alliance may occur.

TABLE 4.1. Instruments Used in the NCPTSD for the Assessment of Combat-Related PTSD and Related Conditions

Diagnosis of PTSD and comorbid disorders

1. *Structured Clinical Interview for DSM-IV Axis I Disorders—Patient Edition (SCID-I/P, Version 2.0)* (SCID; First, Gibbons, Spitzer, & Williams, 1996): a structured interview for the evaluation of Axis I disorders.
2. *Clinician Administered PTSD Scale for DSM* (CAPS; Blake et al., 1990): a structured interview for the evaluation of PTSD.
3. *Minnesota Multiphasic Personality Inventory—2* (MMPI-2; Butcher et al., 1989): a paper-and-pencil test for personality functioning and psychopathology; two subscales (Keane et al., 1984; Schlenger & Kulka, 1989) are available for the assessment of PTSD.
4. *Symptom Checklist 90—Revised* (SCL-90-R; Derogatis, 1977): a paper-and-pencil measure of a wide range of psychological problems; two subscales (Saunders et al., 1990; Weathers et al., 1996) are available for the assessment of PTSD.
5. *Beck Depression Inventory—II* (Beck et al., 1996): a paper-and-pencil questionnaire for the assessment of depression.
6. *Beck Anxiety Inventory* (Beck, et al., 1988): a paper-and-pencil questionnaire for the assessment of anxiety.

Evaluation of lifespan trauma

1. *Potential Stressful Events Interview* (PSEI; Falsetti et al., 1994): a comprehensive interview for the assessment of stressful events, including their objective and subjective characteristics.
2. *Evaluation of Lifetime Stressors Questionnaire and Interview* (ELS; Krinsley et al., 1994): a structured interview for the assessment of lifetime exposure to traumatic events.
3. *Traumatic Stress Schedule* (TSS; Norris, 1990): a brief screening instrument for the assessment of traumatic events.

Evaluation of combat experience and trauma

1. *Mississippi Scale for Combat-Related PTSD* (Keane et al., 1988): a paper-and-pencil measure of the severity of PTSD and associated features.
2. *Combat Exposure Scale* (CES; Keane et al., 1989): a paper-and-pencil measure of the degree of combat experienced by the veteran.
3. *PTSD Checklist* (PCL; Weathers et al., 1993): a PTSD questionnaire based on the criteria contained in the *DSM*.

TREATMENT OF COMBAT-RELATED PTSD: A FLEXIBLE, HIERARCHICAL APPROACH

Keane and colleagues (Keane, 1995; Keane, Fisher, Krinsley, & Niles, 1994) have designed an approach to the behavioral psychotherapy of war-zone-related PTSD that is sensitive to the fact that such clients present with a variety of types and degrees of impairment. This approach is an inherently flexible one with respect to matching the level of treatment with the client's current clinical state. It is also hierarchical in nature, in that the utilization of methods in each component of the treatment package presupposes a level of functioning that corresponds to the

successful completion of preceding phases. Beginning with methods used during periods of acute crisis, the six components of this treatment approach are stabilization, psychoeducation, stress management, focus on trauma memory, secondary prevention, and aftercare.

Our approach to treatment is designed to address the most pressing concerns within the acute, chronic, and residual phases of combat-related PTSD. Although the steps taken in this treatment approach usually occur in the order presented in this chapter, different clients will present with different sets of needs, requiring more or less time and intensity of treatment in the various phases. For example, some clients who are in crisis and lack basic support systems will need more work on emotional and behavioral stabilization, whereas others who are relatively intact may be able to move more quickly into trauma education and stress management. In general, however, the successful completion of each phase of treatment is a prerequisite for moving on to the next one.

Emotional and Behavioral Stabilization

Clients often present for treatment in an acute phase of PTSD, such that symptoms of reexperiencing, avoidance, and arousal are exacerbated, and even basic levels of psychosocial functioning are compromised. There are three essential goals at this point in treatment. First, issues of safety and basic needs must be addressed initially. Suicidality and homicidality are assessed and, if appropriate, addressed. Obviously, therapy can only be conducted if both client and therapist are safe from the threat of harm. Crises are dismantled, explored, and reduced, if not eliminated, in their intensities. The most elementary needs of the client, sometimes including requirements for food, clothing, and shelter, are addressed. Another goal in this part of treatment is the development of an agreement between therapist and client about the parameters and goals of therapy, and the creation of a positive therapeutic alliance. At this stage, promotion of a positive alliance centers on the issue of trust. Vietnam veterans are likely to demonstrate considerable distrust in others, particularly in the context of a government-based treatment system such as the DVA. The development of trust, therefore, is a slow process that unfolds over time and requires the therapist to be patient and empathic in the face of initially angry, and often very suspicious, presentations. In addition, the client's current strategies for coping are discussed. These strategies often include the use of alcohol and drugs, which must be evaluated and brought under control. Referrals to treatment programs for substance abuse and dependence can be useful adjuncts to PTSD treatment in veterans. Pharmacotherapy, too, may be of considerable help in stabilizing the veteran client, and close consultation with a psychiatrist is highly recommended at this stage in treatment (see Friedman, 1991). Antianxiety medications, such as Ativan and Klonopin, and antidepressant medications, such as Prozac and Zoloft, are typically used. Medications with addictive properties, such as the benzodiazepines,

are used less frequently because of the high risk of drug dependence and abuse in this population.

Stabilization and a positive treatment alliance provide a crucial foundation for the remainder of treatment. Clients must be helped to work through the crises that typically drive them into treatment in the first place. The unstable client in the throes of clinical crisis is simply unable to take in or benefit from more taxing therapeutic efforts. Cognitive, behavioral, and emotional resources are drained during periods of acute symptom exacerbation, so that there is little psychological capacity left over to attend to anything else. Therapists' attempts to engage the acutely disturbed client in tasks that are beyond the client's current capacities are likely to meet with failure, dropout, the further exacerbation of symptoms, and a reduced likelihood that the client will seek treatment again in the future. A careful and sympathetic approach taken to the exploration of the client's initial presenting complaints results in the reduction, if not elimination, of difficulties that are certain to interfere with subsequent treatment. The work of this initial phase of treatment may be best accomplished within the context of a one-on-one relationship with the client.

Trauma Education

Once the client is stabilized and adequate supports have been established, efforts can be made to educate the client in more detail about trauma and its effects. The therapist takes a collaborative stance toward the client in this phase of treatment. The therapeutic alliance is aided by the development of a shared therapeutic lexicon about PTSD. The sharing of a common language works both ways in the treatment of combat veterans, since the therapist must also learn a fair amount of military jargon in order to understand adequately the client's traumatic experiences of combat. The therapist will learn much of the language of warfare from the client, thus providing the veteran with an opportunity to experience self-efficacy during the formation of the treatment alliance. The interpersonal context of life in the military, within which the trauma occurred, must also be fully examined and understood. Thus, the client is taught about the positive (i.e., intrusive thoughts, nightmares, flashbacks) and negative (i.e., anhedonia, numbing, alienation) symptoms of PTSD, common comorbid conditions, and the effects of PTSD on the body, on the sense of self, and on others with whom the client comes into contact. Such information may provide additional relief to the extent that clients are able to assimilate otherwise confusing and overwhelming experiences into a cognitive framework within which they can begin to understand their condition and its impact on others.

PTSD is explained as a normal, natural adaptation to the extreme stress of warfare and its sequelae. Clients are taught that recovery is facilitated by the effective handling of daily stressors, the telling (and retelling) of their story, and the gradual reestablishment of interpersonal ties at home and at work. The work

of this second phase is best conducted via a combination of individual therapy, recommended readings and videotapes, and in a psychoeducational group with other combat veterans. The group modality has the added benefit of helping clients to understand that they are not alone in their struggles with PTSD. Psychoeducational approaches can also be used with family members to help them in their efforts to cope with the behavior of the combat veteran and to facilitate the treatment of the individual within the family as a unit.

Stress Management

Once the combat veteran has been given adequate information to understand his condition and its impact on others, the task of helping him to manage everyday stressors can be undertaken. Essentially, the goal of training in stress management is to enable the client to deal more effectively with the behavioral, cognitive, and emotional responses that they tend to have to the typical hassles and stressors of everyday life. Effective coping with such day-to-day stressors is important for a number of reasons. At a theoretical level, a reduction in the client's stress response should lead to a reduction in reexperiencing, since arousal and aversive emotions are powerful sources of memory activation (Litz & Keane, 1989; Litz et al., 1996; McNally, Litz, Prassas, Shin, & Weathers, 1994). In addition, the learning of stress management skills reduces avoidance behavior by enhancing the client's expectancies about coping with a variety of stressful situations. The reduction of avoidance provides opportunities for exposure to corrective information in a variety of domains often associated with the trauma. Furthermore, the likelihood of relapse is reduced when the veteran can effectively call forth healthy coping responses when confronted with stressors.

Various strategies are used in the teaching of positive methods of coping with stress. These include relaxation techniques (Benson, 1975; Jacobson, 1938; Wolpe, 1984), cognitive techniques (Beck, 1972; Kilpatrick, Veronen, & Resick, 1979; Meichenbaum & Jaremko, 1983), and other skills training approaches (e.g., O'Donohue & Krasner, 1994). One of the more frequently used modalities is stress inoculation training (SIT; Meichenbaum, 1985). Typically, SIT consists of a three-pronged approach to the management of stress. First, the client is helped to understand the sources of stress, the stress response itself, and alternative strategies for coping. Second, the client is instructed in the acquisition of specific skills (e.g., problem solving), rehearses these skills, and is given feedback about performance. It is important that the veteran experiences some degree of success in each step in the process of learning how to manage stress. Successful experiences reinforce the veteran's use of these strategies and help to maintain a positive attitude and sufficient motivation when faced with more intense challenges. Third, the client is encouraged to use these skills in real-life situations, and efforts are made to help to maintain these skills and to aid in their generalization. Techniques are available for the treatment of most stress-based difficulties expe-

rienced by combat veterans, including anger management (Gerlock, 1996; Novaco, 1996), and many of these skills-based approaches are designed to be conducted in a group format.

Trauma Focus

Assuming that the veteran is stable, and now armed with both an understanding of PTSD and with various means of coping with stress, he or she may be ready for some form of exposure therapy. We emphasize the conditional nature of this statement, because exposure is inappropriate in some cases (e.g., the client is unable to maintain a stable, working therapeutic relationship, continues to lapse into substance abuse, and/or is acutely homicidal or suicidal), or contraindicated at certain points in the trajectory of chronic PTSD (e.g., the client is unable to disclose or identify specific memories of traumatic events; see Litz, Blake, Gerardi, & Keane, 1990).

There is a range of uncovering, or narrative-based psychotherapeutic interventions, both in individual and group modalities, that are also helpful in promoting the sustained direction of attention toward the trauma memory, as well as the elucidation of details of the memory (Fairbank & Brown, 1987). However, direct therapeutic exposure (DTE) is the most efficient, systematic, and well-studied approach to treating traumatic memories and associated conditioned emotional responses. DTE can be employed within a number of formats, including systematic desensitization (Wolpe, 1958), implosive therapy (Stampfl & Levis, 1967), flooding (Rachman, 1966) and, more recently, eye movement desensitization and reprocessing (EMDR; Shapiro, 1995; see Boudewyns & Hyer, 1996; Keane, in press; and Pitman et al., 1996, for a critical discussion of the role of exposure within EMDR). The modal vehicle for exposure therapy of war-zone-related PTSD is imaginal, since the target of the treatment is memory.

At the outset, certain therapist and client factors are viewed as prerequisites to the use of DTE. Therapists must be adequately trained in the modality, including having sufficient sophistication about its theoretical underpinnings and research base (see especially Stampfl & Levis, 1967, and Frueh, Turner, & Beidel, 1995). Such training and knowledge increase therapist confidence in the model. It is vitally important for therapists to be confident in this mode of treatment because, more often than not, clients will look worse before they get better, and they can be quite resistant as a result. In addition, therapists must be able to tolerate not only a great deal of emotional upheaval from their clients during exposure therapy, but they must also manage their own personal affective reactions throughout the course of treating PTSD (see Saakvitne & Pearlman, 1996).

The client should have reasonable sources of support and should be clinically stable, both factors that our treatment approach is designed to facilitate. Many veterans have comorbid conditions and economic hardships that make it difficult for them to engage in any sort of treatment, exposure-based or otherwise. When

considering the client's suitability for exposure therapy, therapists need to consider the client's risk for the relapse of comorbid conditions, their living situation (e.g., Do they live in a shelter? On the street?), and problems that interfere with clients' appreciation of their own responsibilities and roles in their care.

Crucial in the preparation of clients for exposure therapy is a careful and considered rationale for the treatment. The therapist begins by giving a simplified account of the two-factor theory of the development and maintenance of the client's reexperiencing symptoms and avoidance problems. It is explained that the horrible events witnessed and survived by the veteran client created very powerful memories that are reactivated very easily by seemingly small and insignificant reminders. When reminded, a traumatized person reexperiences, sometimes only slightly, other times very intensely, painful emotional responses.

Quite naturally, anyone who experiences these painful emotional responses is motivated to avoid the feelings and painful memories that surface. Avoidance behaviors are highly rewarding because they force the painful memories, albeit temporarily, into the background and reduce painful feelings. We emphasize to veteran clients the value of their avoidance behavior while in the military, and in their attempts to adjust to civilian life upon discharge. There are many different ways in which a veteran can avoid both reminders of combat experiences and attendant emotional reactions, and many of these were first learned in the context of life-threatening situations in a war zone. We work with clients to list the various ways in which they avoid reminders or reactions currently, while respecting the prior functional value of these behaviors. Clients learn that avoidance behaviors are, ultimately, counterproductive, and provide only brief relief from pain.

We explain that lasting healing from trauma, within the exposure framework, comes from two sources: careful, patient, and repeatedly sustained exposure to reminders and memories of war-zone experiences, and concurrent prevention of avoidance reactions. Clients are forewarned that they are likely to be quite crafty in the variety of ways that they have come to avoid memories and feelings. Their task is to allow for the exposure to be prolonged sufficiently so that healing can take place. We explain that healing is a natural human process that involves something technically labeled "extinction" (a reduction in emotional reactions to remembering over a period of time). Healing through exposure cannot be prolonged adequately if avoidance behaviors are activated. It is explained that the purpose of imaginal exposure is to provide time within treatment sessions for healing (extinction) to take place. The therapy is designed to provide a safe place for the client to focus on, without avoiding, their traumatic war-zone experiences. The ultimate goal is to reduce, over a period of time, the intensity of the emotional reactions that arise when remembering the traumatic events.

It is vitally important that clients' expectations be accurate about the course of exposure therapy. They are told that, because they have avoided focusing on their memories for so many years, many of those memories have lain dormant. When such memories do surface, it might well be shocking and difficult to cope

with the surges of feelings that accompany them. If the therapy is working, clients can expect to feel worse before they improve. We often use the metaphor of a scab that requires healing; when the scab is exposed, the skin is bleeding, raw, and very painful. However, lasting healing can come only from full exposure of the wound. In addition, we forewarn clients that uncovering and sharing their memories of experiences in combat will activate other painful memories of traumatic events, both military-based and otherwise. Some of these memories will come in the form of dreams, while others will emerge in daytime thoughts. There may also be behavioral manifestations of reactivated trauma that are not directly associated with a specific memory.

We instruct veteran clients to monitor the memories that surface as an active coping method, as well as to provide a source of material for subsequent exposure sessions. This typically empowers clients to take an active part in rediscovering what happened to them, and the psychological toll these events have exacted. Such monitoring can facilitate personal distancing from becoming immersed in reexperiencing, and can also reduce the likelihood of avoidance.

Clients are warned about the likelihood that they will have thoughts about quitting, not showing up, or defending against focusing on their memories during the course of exposure therapy. This is quite natural. They are reminded that the trauma is in the past and can do no harm in the present. However, the therapist also communicates an understanding of the extent to which this process is painful, thus normalizing and preempting clients' motivation toward avoidance.

The initial content of exposure sessions is usually provided by the client during the assessment. The therapist should have a general sense of the traumatic memories that the veteran wishes to resolve before beginning exposure therapy. Typically, the therapist will know only the general outlines of a memory or memories, not the minute details. A list of these memories should be made, taking into account both their temporal ordering and their relative aversiveness. In general, it is advisable to start exposure work with the least aversive memories first. The therapist should not feel surprised when memories of traumatic events arise that were not reported by the client during the assessment; in fact, such memories can be expected to surface during the course of exposure treatment. Both therapist and client need to develop a collaboration akin to detective work when uncovering details of the painful past.

A schematic structure for exposure sessions is as follows: (1) the first 10 minutes are devoted to a reporting by the client of his or her attempts to make sense out of military-based memories during the past week, as well as discussion of experiences in carrying out homework exercises, (2) 30 minutes of exposure work, and (3) 10 to 15 minutes of processing the exposure work, as well as other associations and meanings that arise. Homework assignments can be assigned during the last part of sessions.

An exposure session begins with therapist and client collaboratively choosing the memory that will be worked on. The therapist then instructs clients to

close their eyes, and to focus on the memory. The therapist behaves like the director of a play, prompting clients to focus on various aspects of a memory. This is done in the context of the here and now, and in the first person. Questions are asked about stimulus elements (e.g., "What do you see?"), response elements (e.g., "What are you feeling?"), and meaning elements (e.g., "What comes to mind as you are feeling _____?") in order to facilitate comprehensive exposure to the memory. Clients' roles are to describe what they see, feel, sense, and think, in the first person, present tense—to relive the event as vividly as possible. Clients often resist or defend against doing this by using the past tense and the third person. The therapist's job is to watch for signs that veterans are accessing a traumatic memory, or a painful aspect of such a memory, and to help veterans focus on what they are seeing and experiencing in those moments. The signals of trauma memory activation are both obvious (rapid breathing, crying) and subtle (slight facial grimace, partial/arrested gesture). Simultaneously, the therapist looks for signs of avoidance behavior. Conditioned emotional reactions triggered by exposure therapy are rarely completely free from the countermanding influences of defensive reactions and other attempts at avoidance. The therapist needs to prompt clients to "stay with" the memory, to remain focused on their feelings, and to share what is occurring to them as they do so. In addition, the therapist hypothesizes constantly about thoughts and feelings that clients may avoid because of their aversive qualities. If all is going well, the therapist eventually recedes into the background, like an empathic, understanding, and patient coach.

During DTE, the therapist assesses the client's emotional state periodically so as to monitor any diminution of conditioned emotional reactions. Scenes are repeated, preferably a number of times within a single session, until the client reports a reduction in anxiety. Once this occurs, the therapist may help the client to return to the relaxed state achieved at the beginning of the session through the use of progressive relaxation exercises. The therapist should also engage the client in a dialogue about the meaning of, beliefs about, and implications of the trauma, in order to help the client integrate further traumatic experiences with his/her current life.

The ideal goal within each session of exposure therapy is to produce a sustained, conditioned emotional reaction, free from the inhibiting influence of avoidance behavior. Such sustained emotional reactions result in the extinction of conditioned emotional responses. This goal is readily attainable when there is a discrete, focal war-zone memory, and when the veteran is not using defensive maneuvers to avoid reexperiencing and sharing emotional reactions. The therapist can reasonably expect some diminution of the conditioned emotional reaction to such a focal traumatic memory. In fact, several sequences of exposure are likely to occur within a given 30-minute session, each followed by some diminution of emotional reaction. The therapist's job is considerably more complicated, however, when there are multiple, intertwining traumatic memories coupled with intricate and overlearned avoidance behaviors.

Typically, 30 minutes of exposure therapy rarely provides sufficient opportunity for full exposure followed by a reduction in emotional reaction. In our experience with veterans, exposure work can be used to "chip away" at painful war-zone memories. It can often be therapeutic for clients to have an intense emotional outpouring in a given session without the dire consequences that they expect to follow. This kind of experiential disconfirmation provides an opportunity for clients to learn, in a vivid and poignant way, that their worst fears (e.g., "I will go crazy," "I will lose control") are unrealized when they focus on their traumas. If the emotional response activated during exposure treatment is particularly intense and stable toward the end of a session, relaxation techniques can be used to help clients to reduce arousal.

It is also important to attend carefully to how veterans handle the aftereffects of exposure treatments, especially when their emotional responses are still moderately intense at the end of a given session. Veterans should be helped and encouraged to take advantage of the opportunities for learning that arise from such emotional episodes. They can learn to allow themselves to feel vulnerable without avoiding, and to cope in healthy ways (e.g., by talking with their partners, writing down their thoughts).

Exposure therapy is both demanding and invasive. It requires a very good therapeutic relationship and considerable resources on the part of both client and therapist. All decisions about when to apply exposure treatment, or even about whether to use it at all, have to be made on a case-by-case basis (see Lyons & Keane, 1989, and Boudewyns & Shipley, 1983, for additional descriptions of this process).

Research on the outcome of treatments for PTSD has been the subject of four recent reviews (Blake & Sonnenberg, Chapter 2, this volume; Frueh et al., 1995; Keane, 1997; Solomon, Gerrity, & Muff, 1992). Frueh et al. (1995) focus specifically on the outcome of exposure therapy for war-zone-related PTSD. The results of controlled and uncontrolled case studies and clinical trials provide sufficient evidence that exposure therapy can be an efficacious treatment for war-zone-related PTSD.

Relapse Prevention

Whether treatment of the combat veteran's traumatic memories is conducted with exposure or with some other type of uncovering psychotherapy, the prevention of relapse is always a concern. In therapeutic work devoted to relapse prevention, the client is encouraged to develop realistic expectations about his or her trauma memories (e.g., they are likely to recur), and about stress reactions (e.g., some associated emotional distress is to be expected). Clients are instructed to take advantage of successful experiences that they have had in treatment so that these experiences can modify their trauma-related schemas. In our treatment approach, the client will have learned a series of coping skills that will assist him or her in

planning ahead for life crises and high-risk situations. Nevertheless, the therapist should engage the client in a lengthy discussion of the need to be especially prepared for the inevitable recurrence of painful emotion when the client is reminded of what happened to him or her. The augmentation of social supports and vocational counseling are also aspects of this fifth phase of treatment. Moreover, PTSD is increasingly recognized to be a phasic disorder, with symptoms waxing and waning over time. Perhaps this is due to the strength of the initial conditioning or the complexity of network connections (Bouton, 1993; LeDoux, 1989). Preparing clients for accommodating these recurrent exacerbations may preclude serious decompensations in the future. Since anniversary reactions and cues related to the initial conditioning experiences are unavoidable, teaching clients to anticipate and prepare for their inevitable occurrence is essential.

Aftercare

The prevention of gross symptom exacerbation, a retreat from a health stance to problems that arise, and an avoidant lifestyle is built into the comprehensive treatment that we have described in this chapter. Relapse prevention is less of a "last-phase" of treatment in this regard and more an aspect of care that is reinforced throughout treatment. In fact, if relapse prevention is only attended to at the end of treatment, it is likely not to be taken all that seriously, especially when a client is feeling much better. We recommend that therapists pay particular attention throughout treatment to issues of relapse prevention (see Brownell, Marlatt, Lichtenstein, & Wilson, 1986); that is, when problems arise spontaneously (e.g., problems in relationships, parenting, work, health, etc.), therapists need to attend to the metalevel stance that patients take, as well as to the lessons learned about the client's unique domains of high risk. Ideally, veterans with PTSD need to learn that, by virtue of their war-zone experiences, they are left with the added, lifelong burden of needing to pay attention to their emotional lives and the likelihood of intense reactions to mundane, daily hassles.

Relapse prevention is accomplished when the veteran takes a proactive, problem-solving approach to life's stressors. Veterans need to be aware of the inevitable high-risk challenges that they will face, and to have reasonable expectations about the outcomes of their attempts to deal with problems and their own responses. In addition, they require a multidimensional repertoire of skills that can be brought to bear in their responses to significant life events, especially those that cause them to be reminded of their own traumatic memories. Clients are trained to break problems down into their constituent parts, to perform their own functional analysis of problems, oriented toward coping responses and problem solution.

Aftercare also includes planning for long-term follow-up, and perhaps long-term psychotherapy for the resolution of issues that are not amenable to short-term exposure treatment (e.g., childhood physical, sexual abuse, or neglect).

Proactive involvements such as becoming active in veterans' groups, or volunteering, are encouraged as a means of promoting the client's developing capacity to engage with others and develop new peer groups. Social support systems may be the single most important component to maintaining treatment effects. Identifying individuals, groups, and activities that mobilize and promote the client's sense of interpersonal support and comfort will do much to facilitate generalization of treatment effects over time, people, and places. (The following case example is a composite drawn from multiple clinical cases.)

CASE EXAMPLE

Mr. G. was a 55-year-old, married, African American, Vietnam War combat veteran, father of two, who was self-employed as an accountant. He presented in our clinic for an evaluation for PTSD after a friend, and fellow veteran, suggested that he might be having difficulty in coming to terms with his combat experiences in Vietnam. Mr. G. presented with complaints of chronic nightmares and distressing memories about his experiences in Vietnam, social isolation, sexual problems, sleep disturbance, hypervigilance, and difficulties in concentrating. He reported minimal use of alcohol and marijuana while in the warzone. Pre- and postmilitary social adjustment appeared to be good, although Mr. G. did remark on the "distance" he experienced in his marital relationship. His relationships with his children appeared to be healthy, and one of the few sources of enjoyment he reported.

When asked why he had come to the clinic, Mr. G. responded that he had finally "had enough with the nightmares and memories" and was hoping to find some relief. He reported that these symptoms had begun shortly after his return from Vietnam, where he was the squad leader of an infantry company. Mr. G.'s time in the war zone coincided with the Tet Offensive, a major military campaign undertaken by the North Vietnamese in which many American soldiers were killed or wounded. Mr. G. reported numerous recollections of gruesome events during Tet, although one focal event tended to be the object of his recurrent memories and nightmares. It was during this event, a battle in which he and his company were pinned down by the enemy for 3 days straight, that his closest friend in Vietnam was killed while they were holed up in a bunker together. Mr. G. tried in vain to tend to his friend's wounds and, because of the ongoing battle, was forced to remain in the bunker for another 24 hours before reinforcements arrived, allowing the remainder of the company to retreat.

Mr. G. was not in acute crisis at the time of his presentation at our clinic. His difficulties appeared to be chronic ones, and this observation was borne out by the results of a comprehensive psychodiagnostic evaluation. The results of this evaluation indicated that Mr. G. had been suffering from chronic PTSD and major depression. Although he admitted to some vague thoughts about suicide, Mr. G.

stated flatly that he had never come to a point at which he was in danger of hurting himself, and he denied any history of homicidal thoughts.

The psychologist who evaluated Mr. G. recommended that he begin treatment within a group for trauma education. This began with a psychoeducational group about PTSD, including its symptoms and associated conditions. Mr. G. found helpful the knowledge that he was not alone, coupled with opportunities to talk with others who shared a similar background, and he opted to continue with further treatment. This consisted of a stress management group, which Mr. G. found very useful in coping with both daily hassles and the hyperarousal symptoms of PTSD.

After reviewing the conditions for continuing with this course of treatment, Mr. G. and his psychologist agreed that exposure therapy was indicated. Mr. G. was given a detailed rationale for exposure therapy, so that he would know what to expect about the course of this phase of the treatment. The psychologist forewarned Mr. G. that he was likely to try to avoid these experiences, precisely because they were so painful for him. The psychologist emphasized that Mr. G. now had at his disposal techniques that he could use to manage his stress, and that these would come in handy during this phase of the treatment.

After this preliminary groundwork, Mr. G. and his psychologist then reviewed the memories that were most troubling for him. There were four in all, and they agreed to begin with the least troubling event and end with the focal event described earlier. Subsequent sessions began with identifying the memory to be worked on, followed by therapist-guided imaginal exposure as outlined earlier in this chapter. Predictably, Mr. G. experienced some difficulties from time to time in staying with particular aspects of certain memories, especially when these focused on the event in which his best friend was killed in battle. Mr. G. even missed a few appointments during this period of the therapy, ostensibly for valid reasons, although he had never missed or canceled sessions prior to this time. The psychologist patiently explored the possibility that Mr. G. might be avoiding this difficult and painful work, and Mr. G. agreed that this was the case. After working through this avoidance, he was able to continue and complete the exposure sessions for all four identified memories, a process that entailed twice-weekly sessions for a period of 3 months.

At the end of the exposure phase, Mr. G. reported that his waking memories and nightmares were greatly reduced in frequency and intensity. He expressed surprise at the fact that he was now able to remember most of these events without the intensity of aversive feelings he had previously experienced, although he added that the most troubling memory still made him feel very sad. Mr. G. was considerably more accepting of his feelings of sadness, which he had previously taken great pains to avoid.

Mr. G.'s psychologist had warned him about the possibility of relapse, and the next step in his treatment was focused on its prevention. The psychologist

encouraged Mr. G. to focus on his successful experiences, and to apply his newly learned coping skills when faced with stressful experiences. This was to prove especially helpful during the anniversary of the death of Mr. G.'s best friend.

As part of both relapse prevention and aftercare, Mr. G. was then referred to an interpersonally oriented psychotherapy group for combat veterans. His positive experiences in this group helped him to begin to interact with others outside of his family, and he slowly began to expand his social network, including joining the local chapter of a veterans' organization, which was heavily involved in volunteer activities in the community.

AFTERWORD

In this chapter, we have presented a flexible, hierarchical approach to the psychotherapeutic treatment of war-zone-related PTSD. Our approach is based on learning theory principles, and on some of its more recent cognitive-behavioral variations. It is further informed by our clinical experience in treating veterans within the DVA system. There is a need, however, for much more work in the areas of theory development, as well as both basic and applied clinical research with this clinical population. Empirical studies will help us to understand the cognitive mechanisms operative in individuals disabled by PTSD, and instruct us as to how to proceed with the emotional processing necessary for therapy to be successful. Randomized clinical trials to assess outcomes associated with these various interventions will provide pivotal new information on what treatments are working for which clients with what types of traumatic experiences. Such work will be crucial in advancing our understanding and treatment of war-zone-related PTSD.

REFERENCES

Baker, R. R., Menard, S. W., & Johns, L. A. (1989). The military nurse experience in Vietnam: Stress and impact. *Journal of Clinical Psychology, 45*, 736–744.

Beck, A. T. (1972). *Depression: Causes and treatment.* Philadelphia: University of Pennsylvania Press.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*, 893–897.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory—II.* San Antonio, TX: Psychological Corporation.

Belenky, G. L., Noy, S., & Solomon, Z. (1987). Battle stress, morale, "cohesion," combat effectiveness, heroism, and psychiatric casualties: The Israeli experience. In G. Lucas (Ed.), *Contemporary studies in combat psychiatry.* Westport, CT: Greenwood Press.

Benson, H. (1975). *The relaxation response.* New York: William Morrow.

Bion, W. R. (1959). *Experiences in groups and other papers.* New York: Basic Books.

Blake, D. D., Weathers, F. W., Nagy, L. N., Kaloupek, D. G., Klauminser, G., Charney, D. S., & Keane, T. M. (1990). A clinician rating scale for assessing current and lifetime PTSD: The CAPS-1. *Behavior Therapist, 18,* 187–188.

Boudewyns, P. A., & Hyer, L. (1996). Eye movement desensitization and reprocessing (EMDR) as treatment for post-traumatic stress disorder (PTSD). *Clinical Psychology and Psychotherapy, 3,* 185–195.

Boudewyns, P. A., & Shipley, R. H. (1983). *Flooding and implosive therapy.* New York: Plenum.

Bouton, M. E. (1993). Context, time, and memory retrieval in the interference paradigms of Pavlovian conditioning. *Psychological Bulletin, 114,* 80–99.

Brownell, K. D., Marlatt, G. A., Lichtenstein, E., & Wilson, G. T. (1986). Understanding and preventing relapse. *American Psychologist, 41,* 765–782.

Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A. & Karmmer, B. (1989). *Minnesota Multiphasic Personality Inventory (MMPI-2): Manual for administration and scoring.* Minneapolis: University of Minnesota Press.

Carroll, E. M., Rueger, D. B., Foy, D. W., & Donahoe, C. P. (1985). Vietnam combat veterans with posttraumatic stress disorder: Analysis of marital and cohabiting adjustment. *Journal of Abnormal Psychology, 94,* 329–337.

Chemtob, C., Roitblat, H., Hamada, R., Carlson, J., & Twentyman, C. (1988). A cognitive action theory of post-traumatic stress disorder. *Journal of Anxiety Disorders, 2,* 253–275.

Cooper, A. M. (1986). Toward a limited definition of psychic trauma. In A. Rothstein (Ed.), *The reconstructions of trauma: Its significance in clinical work.* Madison, CT: International Universities Press.

Derogatis, L. R. (1977). *The SCL-90 Manual: 1. Scoring, administration and procedures for the SCL-90.* Baltimore: Johns Hopkins University School of Medicine, Clinical Psychometrics Unit.

Fairbank, J. A., & Brown, T. A. (1987). Current behavioral approaches to the treatment of posttraumatic stress disorder. *Behavior Therapist, 10,* 57–64.

Falsetti, S. A., Resnick, H. S., Kilpatrick, D. G., & Freedy, J. R. (1994). A review of the "Potential Stressful Events Interview": A comprehensive assessment instrument of high and low magnitude stressors. *Behavior Therapist, 17,* 66–67.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1996). *Structured Clinical Interview for DSM-IV Axis I Disorders—Patient Edition (SCID-I/P, version 2. 0).* New York: Biometrics Research Department.

Foa, E. B., Steketee, G., & Olasov-Rothbaum, B. (1989). Behavioral/cognitive conceptualization of post-traumatic stress disorder. *Behavior Therapy, 20,* 155–176.

Friedman, M. J. (1991). Biological approaches to the diagnosis and treatment of post-traumatic disorder. *Journal of Traumatic Stress, 4,* 67–91.

Frueh, B. C., Turner, S. M., & Beidel, D. C. (1995). Exposure therapy for combat-related PTSD: A critical review. *Clinical Psychology Review, 15,* 799–817.

Gallers, J., Foy, D. W., Donahue, C. P., & Goldfarb, J. (1988). Post-traumatic stress disorder in Vietnam combat veterans: Effects of traumatic violence exposure and military adjustment. *Journal of Traumatic Stress, 1,* 181–192.

Gerlock, A. A. (1996). An anger management intervention model for veterans with PTSD. *National Center for PTSD Quarterly, 6,* 61–64.

Horowitz, M. J. (1986). *Stress response syndromes* (2nd ed.). New York: Aronson.

Horowitz, M. J., & Becker, S. S. (1971). Cognitive response to stressful stimuli. *Archives of General Psychiatry, 25*, 419–428.

Hyer, L. A., Woods, M. G., & Boudewyns, P. A. (1991). PTSD and alexithymia: Importance of emotional clarification in treatment. *Psychotherapy, 28*, 129–139.

Jacobson, E. (1938). *Progressive relaxation.* Chicago: University of Chicago Press.

Janoff-Bulman, R. (1992). *Shattered assumptions: Toward a new psychology of trauma.* New York: Free Press.

Jordan, B. K., Marmar, C. R., Fairbank, J. A., Schlenger, W. E., Kulka, R. A., Hough, R. L., & Weiss, D. S. (1992). Problems in families of male Vietnam veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 60*, 916–926.

Karnow, S. (1983). *Vietnam: A history.* New York: Viking Press.

Keane, T. M. (1997). Psychological and behavioral treatment of posttraumatic stress disorder. In P. Nathan & J. Gorman (Eds.), *Treatments that work.* Oxford, UK: Oxford University Press.

Keane, T. M. (1995). The role of exposure therapy in the psychological treatment of PTSD. *National Center for PTSD Clinical Quarterly, 5*, 1–6.

Keane, T. M., Caddell, J. M., & Taylor, K. L. (1988). Mississippi Scale for Combat-Related Posttraumatic Stress Disorder: Three studies in reliability and validity. *Journal of Consulting and Clinical Psychology, 56*, 85–90.

Keane, T. M., Fairbank, J. A., Caddell, J. M., Zimering, R. T., Taylor, K. L., & Mora, C. A. (1989). Clinical evaluation of a measure to assess combat exposure. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 1*, 53–55.

Keane, T. M., Fisher, L. M., Krinsley, K. E., & Niles, B. L. (1994). Posttraumatic stress disorder. In M. Hersen & R. T. Ammerman (Eds.), *Handbook of prescriptive treatments for adults.* New York: Plenum.

Keane, T. M., Kaloupek, D. G. (1997). Comorbid psychiatric disorders in PTSD: Implications for research. In R. Yehuda & A. McFarlane (Eds.), *Psychobiology of posttraumatic stress disorder* (pp. 24–34). New York: Annals of the New York Academy of Science.

Keane, T. M., Malloy, P. F., & Fairbank, J. A. (1984). Empirical development of an MMPI subscale for the assessment of combat-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 52*, 888–891.

Keane, T. M., Newman, E., & Orsillo, S. M. (1997). Assessment of military-related posttraumatic stress disorder. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD.* New York: Guilford Press.

Keane, T. M., Scott, W. O., Chavoya, G. A., Lamparski, D. M., & Fairbank, J. A. (1985). Social support in Vietnam veterans with posttraumatic stress disorder: A comparative analysis. *Journal of Consulting and Clinical Psychology, 53*, 95–102.

Keane, T. M., Zimering, R. T., & Caddell, J. M. (1985). A behavioral formulation of posttraumatic stress disorder in Vietnam veterans. *Behavior Therapist, 8*, 9–12.

Kilpatrick, D. G., Veronen, L. J., & Resick, P. A. (1979). The aftermath of rape: Recent empirical findings. *American Journal of Orthopsychiatry, 49*, 658–669.

Krinsley, K., Weathers, F., Vielhauer, M., Newman, E., Walker, E., Young, L., & Kimerling, R. (1994). *Evaluation of Lifetime Stressors Questionnaire and Interview.* Unpublished measure.

Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R.,

& Weiss, D. S. (1990). *Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study.* New York: Brunner/Mazel.

Lebowitz, L., & Newman, E. (1996). The role of cognitive–affective themes in the assessment and treatment of trauma reactions. *Clinical Psychology and Psychotherapy, 3,* 196–207.

LeDoux, J. E. (1989). Cognitive–emotional interactions in the brain. *Cognition and Emotion, 3,* 267–289.

Leon, G. R., Ben-Porath, Y. S., & Hjemboe, S. (1990). Coping patterns and current functioning in a group of Vietnam and Vietnam-era nurses. *Journal of Social and Clinical Psychology, 9,* 334–353.

Litz, B. T., Blake, D. D., Gerardi, R. G., & Keane, T. M. (1990). Decision making guidelines for the use of direct therapeutic exposure in the treatment of post-traumatic stress disorder. *Behavior Therapist, 13,* 91–93.

Litz, B. T., & Keane, T. M. (1989). Information processing in anxiety disorders: Application to the understanding of post-traumatic stress disorder. *Clinical Psychology Review, 9,* 243–257.

Litz, B. T., Penk, W. E., Gerardi, R. J., & Keane, T. M. (1992). Assessment of post-traumatic stress disorder. In P. Saigh (Ed.), *Post traumatic stress disorder: A behavioral approach to assessment and treatment.* Boston: Allyn & Bacon.

Litz, B. T., & Roemer, L. (1996). Post-traumatic stress disorder: An overview. *Clinical Psychology and Psychotherapy, 3,* 153–168.

Litz, B. T., & Weathers, F. W. (1994). The diagnosis and assessment of post-traumatic stress disorder in adults. In M. B. Williams & J. F. Sommer (Eds.), *The handbook of post-traumatic therapy.* Westport, CT: Greenwood Press.

Litz, B. T., Weathers, F. W., Monaco, V., Herman, D. S., Wulfsohn, M., Marx, B., & Keane, T. M. (1996). Attention, arousal, and memory in posttraumatic stress disorder. *Journal of Traumatic Stress, 9,* 497–519.

Lyons, J. A., & Keane, T. M. (1989). Implosive therapy for the treatment of combat-related PTSD. *Journal of Traumatic Stress, 2,* 137–152.

Malloy, P. F., Fairbank, J. A., & Keane, T. M. (1983). Validation of a multimethod assessment of posttraumatic stress disorders in Vietnam veterans. *Journal of Consulting and Clinical Psychology, 51,* 488–494.

McNally, R. J., Litz, B. T., Prassus, A., Shin, L. M., & Weathers, F. W. (1994). Emotional priming of autobiographical memory in post-traumatic stress disorder. *Cognition and Emotion, 8*(4), 351–367.

Meichenbaum, D. (1985). *Stress inoculation training.* New York: Pergamon Press.

Meichenbaum, D., & Jaremko, M. E. (1983). *Stress reduction and prevention.* New York: Plenum.

Mowrer, O. H. (1947). On the dual nature of learning: A reinterpretation of "conditioning" and "problem solving." *Harvard Educational Review, 17,* 102–148.

Newman, E., Kaloupek, D. G., & Keane, T. M. (1996). Assessment of posttraumatic stress disorder in clinical and research settings. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress: The effects of overwhelming experience on mind, body, and society.* New York: Guilford Press.

Newman, E., Orsillo, S. M., Herman, D. S., Niles, B. L., & Litz, B. T. (1995). Clinical presentation of disorders of extreme stress in combat veterans. *Journal of Nervous and Mental Disease, 183,* 628–632.

Nezu, A., & Carnevale, G. (1987). Interpersonal problem solving and coping reactions of Vietnam veterans with posttraumatic stress disorder. *Journal of Abnormal Psychology, 96,* 155–157.

Niederland, W. G. (1971). Introductory notes on the concept, definition, and range of psychic trauma. *International Psychiatry Clinics, 8,* 1–9.

Norris, F. (1990). Screening for traumatic stress: A scale for use in the general population. *Journal of Applied Social Psychology, 20,* 1704–1718.

Novaco, R. W. (1996). Anger treatment and its special challenges. *National Center for PTSD Quarterly, 6,* 56–60.

O'Donohue, W., & Krasner, L. (Eds.). (1994). *Handbook of psychological skills training: Clinical techniques and applications.* Boston: Allyn & Bacon.

Pitman, P. K., Orr, S. P., Altman, B., Longpre, R. E., Poire, R. E., & Macklin, M. L. (1996). Emotional processing during eye movement desensitization and reprocessing therapy of Vietnam veterans with chronic posttraumatic stress disorder. *Comprehensive Psychiatry, 37,* 419–429.

Rachman, S. (1966). Studies in desensitization—II: Flooding. *Behaviour Research and Therapy, 4,* 1–6.

Saakvitne, K. W., & Pearlman, L. A. (1996). *Transforming the pain: A workbook on vicarious traumatization.* New York: Norton.

Saunders, B. E., Mandoki, K. A., & Kilpatrick, D. G. (1990). Development of a crime-related post-traumatic stress disorder scale within the Symptom Checklist-90—Revised. *Journal of Traumatic Stress, 3,* 439–448.

Schlenger, W., & Kulka, R. A. (1989). *PTSD scale development for the MMPI-2.* Research Triangle Park, NC: Research Triangle Park Institute.

Shapiro, F. (1995). *Eye movement desensitization and reprocessing: Basic principles, protocols, and procedures.* New York: Guilford Press.

Solomon, S. D., Gerrity, E. T., & Muff, A. M. (1992). Efficacy of treatments for posttraumatic stress disorder: An empirical review. *Journal of the American Medical Association, 268,* 633–638.

Stampfl, T. G., & Levis, D. J. (1967). Essentials of implosive therapy: A learning-theory-based psychodynamic behavioral therapy. *Journal of Abnormal Psychology, 72,* 496–503.

Tarrier, N. (1996). An application of expressed emotion to the study of PTSD: Preliminary findings. *Clinical Psychology and Psychotherapy, 3,* 220–229.

Weathers, F. W., Litz, B. T., Herman, D. S., Huska, J. A., & Keane, T. M. (1993, October). *The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility.* Paper presented at the annual meeting of the International Society for Traumatic Stress Studies, San Antonio, TX.

Weathers, F. W., Litz, B. T., Keane, T. M., Herman, D. S., Steinberg, H. R., Huska, J. A., & Kraemer, H. C. (1996). The utility of the SCL-90-R for the diagnosis of war-zone-related post-traumatic stress disorder. *Journal of Traumatic Stress, 9,* 111–128.

Wilson, J. P. (1995). The historical evolution of PTSD diagnostic criteria: From Freud to DSM-IV. In G. S. Everly & J. M. Lating (Eds.), *Psychotraumatology: Key papers and core concepts in post-traumatic stress.* New York: Plenum.

Wolfe, J., Mori, D., & Krygeris, S. (1994). Treating trauma in special populations: Lessons from women veterans. *Psychotherapy, 31,* 87–93.

Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition.* Stanford, CA: Stanford University Press.

Wolpe, J. (1984). Deconditioning and ad hoc uses of relaxation: An overview. *Journal of Behavior Therapy and Experimental Psychiatry, 15,* 299–304.

Zaidi, L. Y., & Foy, D. W. (1994). Childhood abuse experiences and combat-related PTSD. *Journal of Traumatic Stress, 7,* 33–42.